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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of)
1998 Biennial Regulatory Review -)
Amendment of Part 18 of the)
Commission's Rules to Update Regulations)
for RF Lighting Devices)

ET Docket No. 98-42

AUG - 7 1998

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

REPLY COMMENTS OF AMERICAN MOBILE RADIO CORPORATION

American Mobile Radio Corporation ("AMRC") hereby submits its reply comments in the above-captioned proceeding, in which the Commission proposes to amend its rules to facilitate the operation of new radio frequency ("RF") lighting devices that would operate in frequencies near AMRC's Satellite Digital Audio Radio Service ("SDARS") system.^{1/}

In its comments, AMRC expressed its strong concern that the operation of these RF lighting devices may cause harmful interference to AMRC's receivers if the Commission adopts the new emissions limits it proposes in its Notice of Proposed Rulemaking ("NPRM").^{2/} AMRC's view is shared by Satellite CD Radio, Inc. ("CD Radio"), the other SDARS licensee authorized to operate in the S-band.^{3/} Both AMRC and Satellite CD Radio ("CD Radio")

^{1/} AMRC, one of two SDARS licensees that will operate in the S-band, is licensed to provide service in the 2332.5-2345 MHz frequency band. American Mobile Radio Corporation, 13 FCC Rcd 8829 (Int'l Bur., October 16, 1997).

^{2/} The Commission specifically seeks comment on whether the non-consumer line-conducted limits in Section 18.307(c) of its rules should be relaxed 10 dB for RF lighting products. In addition, the Commission proposes radiated emissions limits on RF lighting products operating above 1 GHz that are identical to the limits already in place for digital devices in Section 18.305(c) of the Commission's rules: a limit of 100 microvolts per meter for non-consumer equipment and 50 microvolts per meter for consumer equipment.

^{3/} See Comments of Satellite CD Radio, Inc. (July 8, 1998). CD Radio is licensed to operate in the 2320-2332.5 MHz frequency band.

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presented technical analysis that demonstrates the likelihood of harmful interference to SDARS receivers under the Commission's proposed standard.^{4/} In contrast, proponents of microwave lighting technology, including Fusion Lighting and the International Microwave Power Institute ("IMPI"), which both assert that the Commission's proposed standard is too stringent, fail to present any technical support for their view that SDARS receivers will not be affected by the operation of these RF lighting devices.^{5/} In particular, IMPI's argument that systems operating in ISM frequency bands should be permitted to radiate in those bands without any limits ignores the likely effects of the widespread outdoor proliferation of RF lighting devices, including use for street lighting, on SDARS systems.^{6/}

AMRC agrees with CD Radio that, before considering adopting any emissions limits for these RF devices, the Commission should require Fusion and other proponents to provide information on the nature of these radiated emissions, including spectrum graphs and descriptions of measurement techniques utilized. CD Radio Comments at 14. These parties should also be required to provide estimates on the number of microwave lighting devices likely

^{4/} See AMRC Comments, Affidavit of Richard Michalik ("Michalik Affidavit"); CD Radio Comments, Technical Analysis of Wilbur Pritchard, W.L. Pritchard & Co., Inc.

^{5/} Comments of Fusion Lighting (July 7, 1998), at 3-9; Comments of the International Microwave Power Institute (July 8, 1998), at 5-6. See also Comments of National Electrical Manufacturers Association ("NEMA") (July 6, 1998); Comments of General Electric Co. ("GE") (July 2, 1998). While NEMA and GE support the Commission's limits as a reasonable balance between the interest in developing of microwave lighting and the need to protect communications services from interference, they also fail to present any technical evidence that SDARS will be adequately protected under the Commission's proposed standard.

^{6/} IMPI states that "the current GE waiver demonstrates that the emissions from RF lighting has not caused widespread interference." IMPI Comments at 6. The GE waiver is irrelevant to the question of potential interference to SDARS; the licensed SDARS systems are not yet operational, and, in any case, GE's EFL lamps operate in a distant frequency band, between 2.2 and 2.8 MHz.

to enter the RF environment, the density of their deployment, and their proximity to SDARS receivers and other RF equipment. This information will permit an appropriately thorough analysis of the effect of emissions from RF lighting devices on SDARS receivers.

In its comments, AMRC also asserted that both line-conducted and radiated emissions from RF lighting devices could be reduced significantly at little cost.^{2/} See Michalik Affidavit at 2. Fusion barely addresses this issue in its filing. Ignoring current shielding and filtering technologies, Fusion refers to its 1996 finding, discussed in a waiver request it filed that year, that the incorporation of custom filters into its lighting units would add approximately 13% to 17% to the purchase price of the power supply for these devices. Fusion Comments at 4. AMRC continues to believe that Fusion could suppress these out-of-band emissions at much lower cost using current technologies.^{3/} Clearly, before giving further consideration to its own proposal or Fusion's alternative standard, the Commission should require Fusion and other microwave lighting proponents to provide detailed information on the suppressive effects of current filtering and shielding methods. See CD Radio Comments at 14.

Accordingly, AMRC continues to urge the Commission to require Fusion and other proponents to submit the information described above, and, based on an appropriate analysis of

^{2/} In contrast, it would not be economically feasible for AMRC to modify the design of its receivers in order to accommodate new interference from RF lighting devices. As described in the Michalik Affidavit, there is no inexpensive way for AMRC to design its receivers to filter out the RF lighting emissions.

^{3/} In its comments, Metricom, Inc. asserts that "the cost to manufacture and implement shielding to limit in-band RF emissions should be negligible." Comments of Metricom, Inc. (July 6, 1998). AMRC agrees with this view, and believes that such shielding can also be used to limit out-of-band emissions.

that information, to adopt standards for RF lighting devices that protect users of nearby frequencies from harmful out-of-band emissions.

Respectfully submitted,

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Date: August 7, 1998

CERTIFICATE OF SERVICE

I, Elinor W. McCormick, a secretary to the law firm of Fisher Wayland Cooper Leader & Zaragoza L.L.P., hereby certify that on this 7th day of August 1998, served a true copy of the foregoing **"REPLY COMMENTS OF AMERICAN MOBILE RADIO CORPORATION"** by first class United States Mail, postage prepaid, upon the following:

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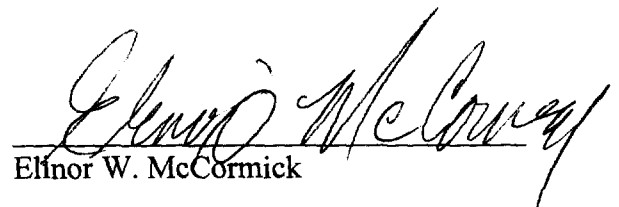
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